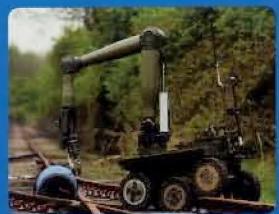


# Cobham plc

## Divisions and Capabilities



1 Cobham Tactical Communications and Surveillance is the world leader in remote vehicle communication solutions.

### Cobham plc

Cobham has four divisions with market facing strategic business units, employing some 12,000 people on five continents, with customers and partners in over 100 countries and annual revenue of some £1.9bn/US\$3 billion.

Cobham's technology is critical to C4ISR, enabling the rapid, secure and resilient movement of voice, video and data between 'sensors' and decision makers.

Cobham technology is also at the heart of many advanced systems on space, air, land and maritime platforms, providing life saving situational awareness, safety, survival and life support systems.

Today, every soldier, vehicle, ship, aircraft and satellite is becoming a node in a network enabled environment, as the demand for connectivity increases. The type and volume of data being exchanged on the modern digital battlefield is increasing enormously, with Cobham equipment supporting voice communications, email, video, GPS navigation, radar, electronic warning systems and data transfer.

### Cobham Tactical Communications and Surveillance

Cobham Tactical Communications and Surveillance is a world leader in securing, sharing and communicating situational awareness in challenging environments, from urban environments to the digital battlefield.

It provides specialist communications, security and surveillance products together with integrated systems and solutions to 18 armed forces and more than 140 agencies globally. Markets served include border surveillance, counter-terrorism and intelligence, critical infrastructure protection, dismounted C4I, force protection, law enforcement and public safety, maritime C4I, military communications and unmanned systems. Cobham Tactical Communications and Surveillance also offers broadcast transmitter and receiver solutions for electronic news gathering, portable field monitoring and video-assist applications.

Cobham's award-winning technologies include Audio, Cameras and Sensors, Cell Intercept, IP Mesh Solutions, Maritime Interdiction, Network Communications, Platform Intercoms, Soldier Communications, Soldier Modernization, Tagging - Tracking and Locating and Video Surveillance as well as 24/7 Client Services.

**In this brochure, we introduce you to the world-beating technology of Cobham, which is pioneered and built to meet the unique operational needs of the surveillance market:**

- **Tracking, Tagging and Locating solutions, where tiny unique tags help follow or find people and assets, wherever they are**
- **Video solutions offer high quality recording and sharing of images, to evidential standards**
- **Audio solutions for overt and covert monitoring of target conversations**
- **IP Mesh: non-line of sight COFDM IP mesh network - the first fluid, self-forming, self-healing mesh network**
- **Integrated Surveillance Solutions bring together the best of Cobham's products to deliver a complete service in some of the toughest locations in the world**



### Cobham Tactical Communications and Surveillance

#### - Worldwide Sales & Support

Cobham has a worldwide network of distributors to support customers. Please go to [www.cobham.com](http://www.cobham.com) for more information.

Staffed by highly experienced professionals around the world, Cobham places great importance on through life support. In addition to help desks, it also offers extended support packages, delivering:

- In-country bespoke technical and operational training courses
- Integrated logistic support, tailored to each client
- Technical support help desk, available 24x7
- Through Life Cycle Management - with in-service upgrades, maintenance, technical advice and training
- Immediate availability of critical system components.

# Cobham Tactical Communications and Surveillance

## Example deployment

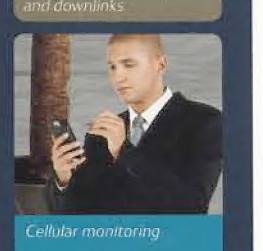
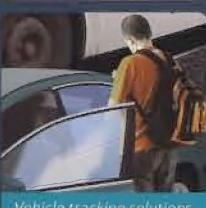
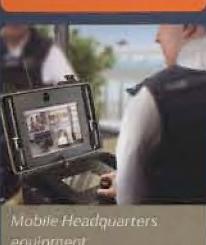
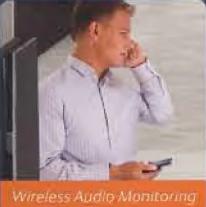


1. Video and audio surveillance solutions can be used to protect an entire city, especially key infrastructure.

2. Many of Cobham's solutions are used in maritime environments around the world.

3. Cobham locator beacons help to rescue downed pilots.

4. Non-line of sight radio solutions offer excellent performance in urban environments.



# Cobham Tactical Communications and Surveillance

## Tracking, Tagging and Locating Solutions

surveillance.ttl@cobham.com



Law enforcement agencies, intelligence and military agencies, special forces and governments around the globe depend on world-leading Cobham Tactical Communications and Surveillance technology. All the equipment in the comprehensive Cobham Tracking, Tagging and Locating product range allows for seamless integration and can be combined to provide reliable mission-critical solutions.

### Protection and surveillance

For example, Cobham's high-integrity, radio-based equipment can be integrated into bespoke solutions for static, tracking and mobile overt and covert surveillance. It is used to intercept, track, locate, monitor and record subjects ranging from vehicles and packages to people and high profile infrastructures, enabling tactical protection of personnel, VIPs and assets.

From cellular-based audio transmitters, radio direction finding solutions and remote switching devices to vehicle-based and body-worn data loggers and GPS surveillance solutions, these products have Cobham technology at their core

and deliver quality results. Tracking and analysis software enables worldwide mission-critical tracking of one or more units simultaneously, with high resolution satellite and aerial images also available.

### Tackling theft

In North America, Cobham's innovative tracking solutions are helping police combat vehicle theft, which currently stands at more than a million vehicles stolen each year. An internet-based GPS system notifies police when a vehicle is stolen, enables it to be tracked and then disables the car to enable officers to make an arrest - reducing the need for costly on-scene surveillance and the risks associated with high-speed chases.

Cobham tracking solutions, such as radio direction finding, use available radio public or private networks to continuously monitor cargo in transit, from supplier to customer.

As well as protecting assets by triggering an alarm if tampered with, this discreet technology helps ensure reliability of delivery and service.

**Developing innovative technology**  
Cobham has a comprehensive suite of state-of-the-art cellular identification, interception and geo-location solutions and services, including the market-leading GSM range. These allow clients to respond to a broad spectrum of complex and serious security threats, including terrorism and organised crime.

The significant investment in research and development it makes means that Cobham Tactical Communications and Surveillance is known as a developer of cellular 'world first' technology. For example, its UMTS (Universal Mobile Telecommunications System) solution has the world's first field-deployed multi-channel 3G capability.

Such large-scale IP and telecom monitoring solutions are built to meet individual client requirements in close dialogue with the relevant providers of Internet and telecom services.

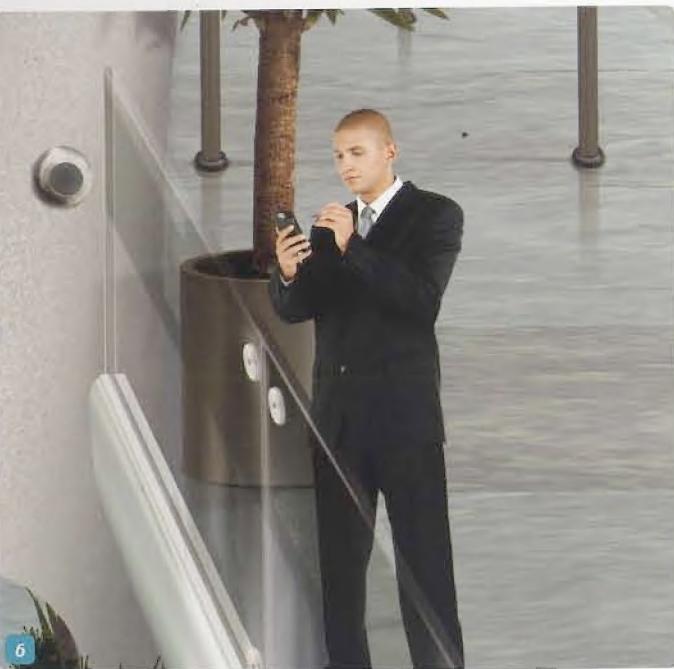


1. Tracking solutions can be used in a variety of applications.

2. Fixed infrastructure for tracking and monitoring.

3. Complex tracking solutions can covertly follow a target throughout its entire journey.

4. Cellular monitoring solutions track suspects, gathering evidential information for successful conviction.



6



7

5 Cobham solutions help monitor targets when close to high-profile sites, such as airports, to assess potential threat.

6 Even in noisy electronic environments, cellular monitoring enables covert surveillance.

7 Body worn tracking solutions enable key personnel to be located quickly for added safety.

8 Officer carrying out surveillance from a desktop for a target in the field.



8

# Cobham Tactical Communications and Surveillance

## Video and Audio Solutions

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### Video

Cobham Tactical Communications and Surveillance provides a large range of video solutions for a variety of clients - from turnkey video surveillance systems for law enforcement, to equipment and support for military applications and the highly dynamic and demanding world of broadcast event coverage, all with Cobham technology at their core:

#### First responders

As surveillance is often undertaken in built up areas, Cobham's unique capability to transmit and receive information in difficult electronic environments on land, sea and air is in high demand.

Its products can transmit broadcast quality video across non-line of sight digital wireless networks, and then distribute received video across IP networks as required. This is critical for first responders such as the fire, police and ambulance services. People who risk their lives on a daily basis can trust Cobham's technology to keep them in touch, relaying vital video

and audio communications when every second counts.

#### Law enforcement

Cobham's strength is in developing complex technologies into simple-to-operate, robust solutions. System components have been designed for ease of integration into robotic and airborne platforms, as well as more conventional personnel and ground vehicle based applications.

Used for National Geographic channel's 'Crittercam', tiny cameras have been attached to over 40 species, such as humpback whales, emperor penguins and lions to get close to them and record behaviours never seen before. Each Crittercam comprises a video camera, microphone, pressure and temperature gauges, headlights, tracking system and a remote release button.

Audio and colour video images are recorded onto a small in-unit video cassette, which has to be watertight and buoyant for underwater recording.

with wireless video technology to provide added security at the 2010 World Cup, and Miami police using highly deployable wireless video downlinks to their helicopters to achieve their 20 miles coverage goal.

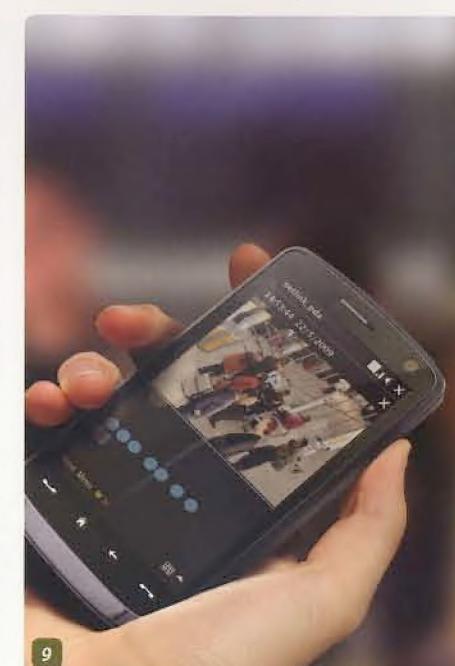
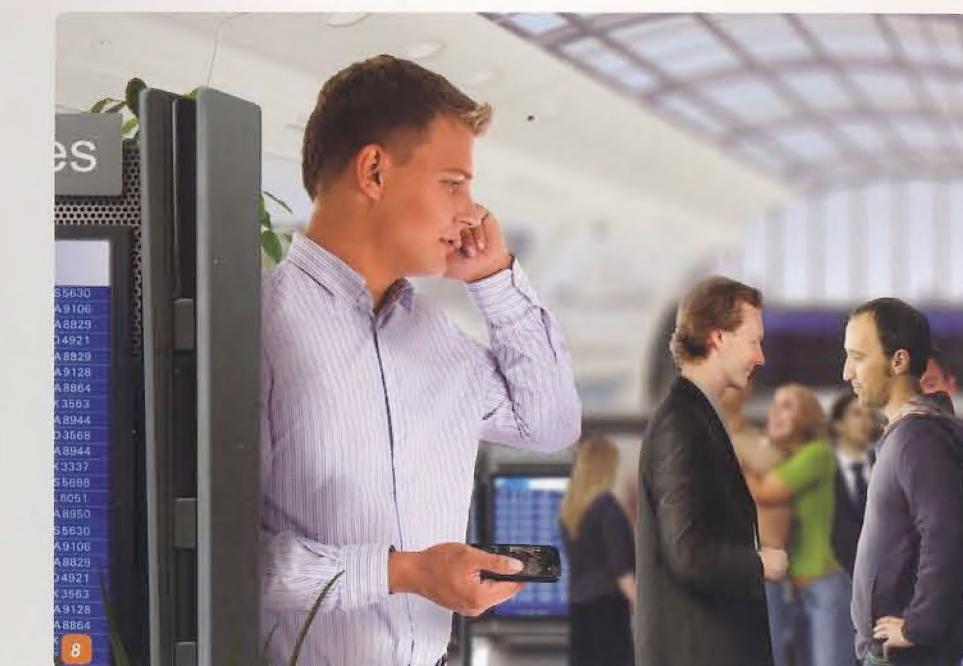
#### Broadcast coverage

Cobham technology is also helping scientists and researchers gain unique insights into animals in their natural habitats.

Used for National Geographic channel's 'Crittercam', tiny cameras have been attached to over 40 species, such as humpback whales, emperor penguins and lions to get close to them and record behaviours never seen before. Each Crittercam comprises a video camera, microphone, pressure and temperature gauges, headlights, tracking system and a remote release button.

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surveillance.audio@cobham.com



### Audio

Cobham is a market leader in the development and production of complete radio transmission systems, and is at the forefront of technology innovation in the fields of digital wireless, video, audio, telemetry and IP.

Its life-critical wireless communication systems and technical surveillance solutions are a powerful weapon in the war on terror for law enforcement, military and intelligence communities. They provide superior agent protection, with unique capabilities which ensure multi-agency interoperability, as well as secure digital encrypted transmissions.

In the world of radio broadcasting, its fixed audio telemetry links can be placed at popular sites, such as airport terminals, sports stadia or music venues - wherever high quality radio links are regularly required. These can then be used to provide a permanent link between the site and the studio, meaning reporters only have to carry a wireless radio mike to conduct

interviews which can be broadcast over a guaranteed, quality radio connection.

Focusing on miniaturisation, signal quality and economy, a broad range of services and high-quality products cover all requirements - from the smallest body transmitter to consultancy and service for setting up nationwide, multi-line voice, fax, data and internet monitoring centres.



5 Wireless receivers can pick up video from any cameras in range, giving speedy tactical information to personnel on the ground.

6 Wireless cameras can be placed in areas that cables cannot reach and be moved as needed, with minimum effort.

7 Tactical video monitoring.

1 Overt and covert camera solutions.

2 Wireless audio solutions.

3 High quality, long range helicopter downlinks - essential tools when real time situational awareness is key to operational success.

4 Remotely controlled robots can enter areas unsafe for humans, feeding back vital video data.

## Cobham Tactical Communications and Surveillance

### Integrated Surveillance Solutions - Military



surveillance.iss@cobham.com

1. Comprehensive range of remote ground sensor solutions.

2. Designed for the harshest environments.

3. Cobham Tactical Data Links deployed in the field.

4. Light weight body worn communications and real-time situational awareness solutions help military personnel communicate effectively and improve safety.

Cobham technologies play a vital role in remote and hostile environments, where they are used in everything from remotely-controlled robots neutralising IEDs (improvised explosive devices), to aerial platforms communicating vital data and video imagery.

Central to their effective operation are Cobham's wireless communication solutions, which have to perform reliably in some extremely difficult radio frequency environments.

In this field, integrated force protection is pivotal to future battle field strategies. Cobham is uniquely placed to deliver an integrated solution to safeguard military personnel and sites, for example helping to protect the bases of peace keeping forces in hostile environments.

Cobham sensors can be used for direct alarm reporting for buildings, restricted access areas and protected sites, for example triggering cameras and alarms on virtual perimeters. The equipment provides the security and protection required for thousands of Allied soldiers, while reducing manpower levels and risks to military personnel.

Cobham's Integrated Force Protection solution is a suite of robust wireless technologies developed into an integrated solution for modern conflicts. Miniaturisation, robust design and power management for long deployments are critical developments in the IFP solution, which features Cobham technology at its core.

The use of wireless technologies provides for portability and a rapid and easy deployment, which allows systems to be used tactically. Reliability and security are key elements in the realisation of these systems.

Cobham's collaboration with other divisions within the wider Group enables it to pull together a varied range of bespoke solutions and systems - from initial concept, through design and manufacturing, to installation, training and through-life support.

5. Robust and secure communications are central to the Cobham Integrated Force Protection solution.



# Cobham Tactical Communications and Surveillance

## Integrated Surveillance Solutions - COFDM IP Mesh

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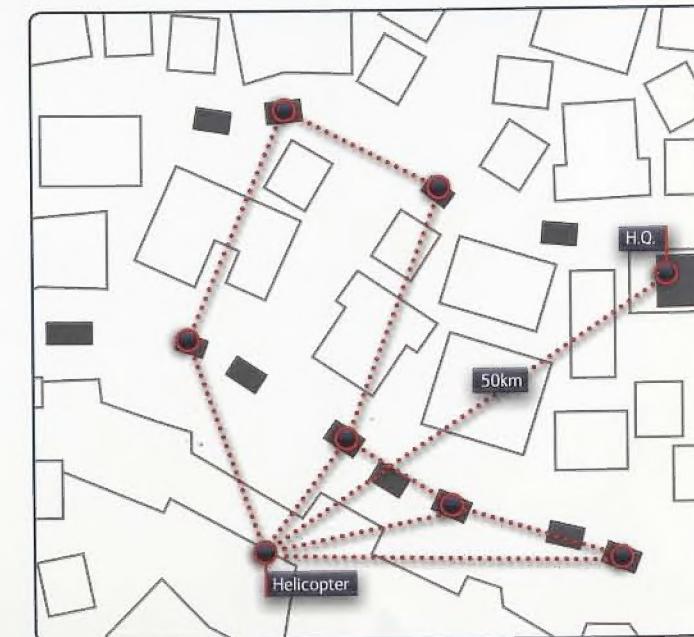


COFDM IP Mesh radios are the latest innovations in the expanding range of mobile solutions with Cobham technology at their core.

4 Data can be exchanged between moving nodes in a point-to-point or point-to-multipoint.

Up to eight of the radios can be combined into a ground-breaking IP mesh network - the first fluid, self-forming, self-healing mesh. Offering genuine non-line of sight coverage, the IP Mesh system is truly mobile and therefore supplies a network not limited by range - one which will deliver in environments too tough for other radio solutions to cope with.

Unlike other wireless options, the COFDM IP Mesh constantly readjusts itself as nodes move, forming any shape of network, including chains, stars and random networks.



1 COFDM mesh offers reliable and flexible wireless communications solutions in tunnels and mines.

2 Mesh systems deliver flexible solutions for CCTV infrastructure where NLOS performance is required or spectrum availability limited.

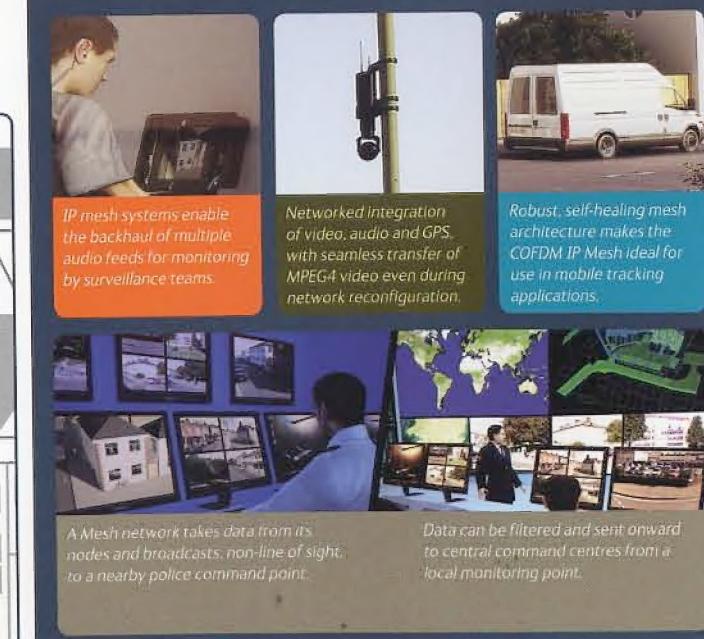
3 Mesh systems enable fire fighting teams to access key operational data in the fireground.



5

Tactical monitoring

Camera car



KEY  
- - - Mesh 1  
- - - Mesh 2  
- - - - SOLO link out

5 The IP Mesh network constantly assesses which nodes are in range and the best route to send data between them.



IP mesh systems enable the backhaul of multiple audio feeds for monitoring by surveillance teams.

Networked integration of video, audio and GPS, with seamless transfer of MPEG4 video even during network reconfiguration.

Robust, self-healing mesh architecture makes the COFDM IP Mesh ideal for use in mobile tracking applications.

A Mesh network takes data from as nodes and broadcasts, non-line of sight, to a nearby police command point.

Data can be filtered and sent onward to central command centres from a local monitoring point.

## Cobham Tactical Communications and Surveillance

### Integrated Surveillance Solutions - CBRN

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1. Hitching the Scene Barrier Management System to a police vehicle makes it a highly mobile solution.



Governments and police forces around the world are more aware than ever of the CBRN (chemical, biological, radiological and nuclear) threat to the communities they protect.

If a CBRN event occurs, it is vital that people are removed from the vicinity quickly and that local warnings are broadcast as widely as possible.

Cobham, working in partnership with industry-leading specialists and the United Kingdom's Police National (PN) CBRN Centre, has therefore produced simple, rugged mobile solutions to greatly increase efficiency. Successful crowd communication and control can now be handled by less than five officers at each site, improving police and public safety and enabling better allocation of resources by incident controllers.

The Cobham CBRN Solutions can also be used to protect key assets and control crowd movement during public order events. Quick and simple to deploy, they significantly reduce the manpower required to set up cordons and free officers for more hands-on policing.



2 A single Barrier Management System extends to form a 13m long cordon.

3 Polycarbonate viewing portals enable safe crowd monitoring.

4 Reflective 'Police Cordon' signage can be read at 20m and is compliant with Section 33 of the Terrorism Act 2000.



# Orion SkyWeb Premium

Advanced Internet-based Tracking Solution

2011 Data Sheet

## Any time, anywhere real-time tracking

- Securely access tracking information on-line from any PC
- Tracking using street level maps, satellite imagery or both
- Define an unlimited number of boundaries, including free hand generated boundaries to allow for irregularly shaped contours in geographic regions or terrain
- Independent tracking windows for currently selected/active tracks
- Real-time, on-screen notifications for critical events, such as boundary enter and exit events
- Integrated map-in-map display leverages Google Maps to provide additional location information about the target including Google Earth and Google Streetview

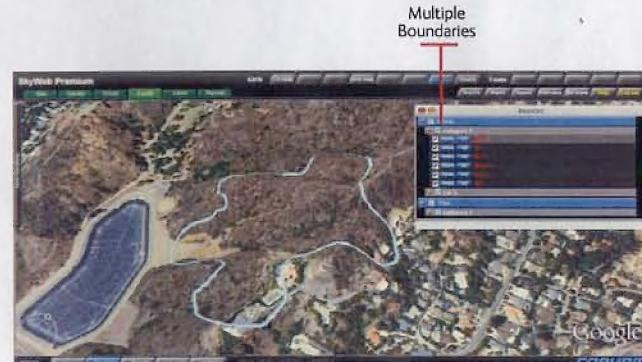
## Compatible with

Command & Control  
- ST820 Guardian  
- ST825 Guardian

## Live Tracking

- ST811 Paladin
- ST820 Paladin
- ST853 Paladin
- ST854 Paladin
- ST970 Paladin
- ST975 Paladin
- ST980 Paladin
- Unitrac Links (U2U Interface)

**COBHAM**



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